

Geologic Map of the Goat Mountain Quadrangle, McKinley County, New Mexico (Year 1 of 1-Year)

By

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Open-file Digital Geologic Map OF-GM 240

Scale 1:24,000

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Geology of the Goat Mountain Quadrangle

Geologic compilation, aerial photograph interpretation, minor revisions,
digitization and cross-section by Geoffrey C. Rawling

Geology mapped by Robert. E. Thaden, Elmer. S. Santos, and Earl. J. Ostling, USGS

af- artificial fill for roads and cattle tanks;

daf – artificial fill and or disturbed land

mt - mounds of reclaimed mine tailings

cbp – collapse/breccia pipes (Jurassic?)

Qt - talus and landslide blocks

Qal – alluvial deposits, undivided

Qd – eolian sand in small dunes and sheets

Qc – Upland deposits and colluvium

Unconformity

Kp – **Point Lookout Sandstone.** Light gray and reddish-brown medium- to fine-grained Sandstone. Divisible into two parts where Satan Tongue of Mancos shale is present. 250 feet thick.

Crevasse Canyon Formation

Kcg – **Gibson Coal Member.** Interbedded sandstone, siltstone, shale, and coal beds. 200 feet thick.

Kcda – **Dalton Sandstone Member.** Light gray medium and fine-grained sandstone. 60 – 150 feet thick.

Kcs – **Stray sandstone of local usage.** Gray fine- medium- and coarse-grained fossiliferous sandstone, and conglomerate. 40 – 120 feet thick.

Kcdi – **Dilco coal member.** Interbedded sandstone, siltstone, shale, and coal beds. 100 – 150 feet thick.

Gallup Sandstone

Kg – **main body of Gallup Sandstone.** Pale reddish-brown and light gray fine and medium grained sandstone. 0 – 120 feet thick.

Kgb, Kga – **lower part of Gallup Sandstone.** Gray fossiliferous fine- and very coarse-grained sandstone. 20 – 80, and 0 – 50 feet thick, respectively.

Mancos Shale

Kmm – **Mullatto tongue of Mancos Shale.** Pale yellowish-brown sandy shale, dark gray shale, and massive pale yellowish-brown fine-grained silty sandstone. Occurs between **Kcda** and **Kcs** or, where **Kcs** is missing, between **Kcda** and **Kcdi** of Crevasse Canyon Formation. 220 feet thick.

Km – **main body of Mancos Shale.** Dark gray friable silty shale with minor thin light brown sandstone and gray fissile shale. Occurs below **Kg** and below **Kgb** and **Kga** of Gallup Sandstone. Main portion ~ 600 feet thick; portion above **Kga** 50 – 100 feet thick; portion above **Kgb** 20 – 80 feet thick.

Kmc, Kmb, Kma – **lower part of Mancos Shale.** Gray shale, overlain by pale yellowish-brown to pale yellowish gray fine and medium-grained sandstone. 115, 90, and 40 – 80 feet thick, respectively.

Kd – **Dakota Sandstone.** Pale yellowish-brown, orange, and white fine- and medium-grained sandstone. 60 -100 feet thick

Unconformity

Morrison Formation

Jmb – **Brushy Basin Member.** Mainly grayish-green mudstone with minor lenticular light gray and yellowish-gray fine- and medium-grained sandstone. 60 – 110 feet thick.

Jmw – **Westwater Canyon Member.** Mainly light gray, yellowish-, and reddish-gray, fine- and medium-grained sandstone. Minor light greenish-gray lenticular mudstone. 100 – 120 feet thick.

Jmwu – **upper part or Poison Canyon sandstone of economic usage.** Separated from main part (Jmwl) by a thick mudstone tongue. Mudstone tongue is mapped as Jmwu. 0 – 80 feet thick.

Jmwl – **lower part.** Where thick mudstone tongue splits off Poison Canyon sandstone. 80 – 100 feet thick.

Jmr – **Recapture Member.** Grayish-red and greenish-gray mudstone siltstone and sandstone. 90 -120 feet thick

Jcs – Cow Springs Sandstone. Very light gray fine- and medium-grained sandstone. Interfingers with lower part of **Jmr**. 0 – 120 feet thick.

Jb – Bluff Sandstone. Grayish-yellow, pale orange, and pale reddish-brown fine- and medium-grained sandstone. 90 – 100 feet thick.

Js – Summerville Formation. Interbedded variegated mudstone, siltstone, and fine- to very fine-grained sandstone. 190 – 266 feet thick in Ambrosia Lake quadrangle

pJsu – Rocks beneath Summerville Formation, undivided – Cross-section only.